telephony

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The Journal of the Telephone Industry

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TELEPHONY

The Journal of the Telephone Industry

SEPTEMBER 8, 1945

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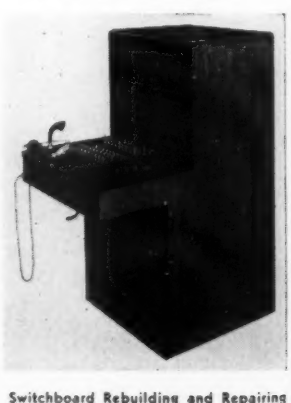

Switchboard Rebuilding and Repairing of all Kinds

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Cable Maintenance

By DANIEL SEITZ
Cable Superintendent
York (Pa.) Telephone & Telegraph Co.

The last of two articles on the proper approach to clearing cable trouble. Temporary repairs to be avoided when permanent repairs can be effected, and a return trip to the scene of trouble prevented are discussed. Temporary repairs, when necessary, should be accomplished in an approved manner which is explained in detail.

PERMANENT repairs of all openings in lead sheath cables should be made as quickly as possible after the splicing has been completed or the trouble cleared. It is the policy of some companies to wipe on a sleeve or to make other permanent sheath repairs immediately upon completion of work that made it necessary to open the sheath. This plan is adopted because it saves the time of placing a temporary protection and a second trip for making the repair permanent. Due to unavoidable circumstances, however, temporary repairs often must be made.

Fig. 6 indicates a method of temporary repair whereby an opening in aerial cable will be reasonably safe against moisture penetration. The opening may be wrapped with muslin and several layers of friction tape or a rubber cover applied as shown in *Fig. 7*. This method should be used for temporary underground repairs. A piece of sheet lead placed as shown in *Fig. 6* will provide a lead roof over the taped opening. If thin sheet lead (approximately one-sixteenth of an inch) is not available, a piece of lead sheath cut from junk cable will suffice. Sloping the cable down in each direction is important because this drains the water away from the opening.

Temporary protection, when used on underground cable openings, must be positive. Wrapping with ordinary friction tape is not even a reasonably safe method. Rubber adhesive self-sealing tape applied as shown in *Fig. 7* affords good protection if reasonable precautions are observed in its use. A sheet of this tape, placed with the adhesive side down, of sufficient size so that at least a one-inch seal is formed along the bottom edge in the manner shown by the cross section *(Fig. 7)* will prove most effective. The ends should be folded back with the tape cover bound tightly to the sheath at the ends by the use of a narrow piece of the same tape. Then, two layers of friction tape should be placed over that and extended about two inches out over the lead sheath. If friction tape is not used, wind a rubber cord under tension over the tape where it is in contact with the sheath.

Another method of temporarily protecting underground cable openings is shown in *Fig. 8*. A two or three-inch wide tape is applied over the muslin, keeping the tape under tension as it is wound around the opening. The flexibility of the tape, plus the sealing qualities, makes a good non-permanent repair. The white adhesive side of the tape will not adhere to the black portion of the tape, but the adhesive will attach itself along the edge of the preceding layer, thereby making a seal. Friction tape or a rubber cord applied where the rubber tape is in contact with the sheath also is recommended for this type repair. Some of the newer non-corrosive tapes are useful in making permanent repairs of cable.

Stray bullets often destroy the insulation on pairs without breaking the wire. In the case of moisture, the insulation may be impaired in spots by ringing current, battery, etc. *Fig. 9* illustrates several pairs damaged by a bullet. The open pairs had to be spliced, but others were repaired with non-cor-

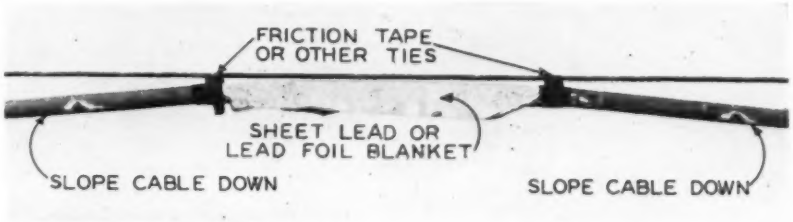


Fig. 6. Temporary protection of sheath openings in aerial cable.

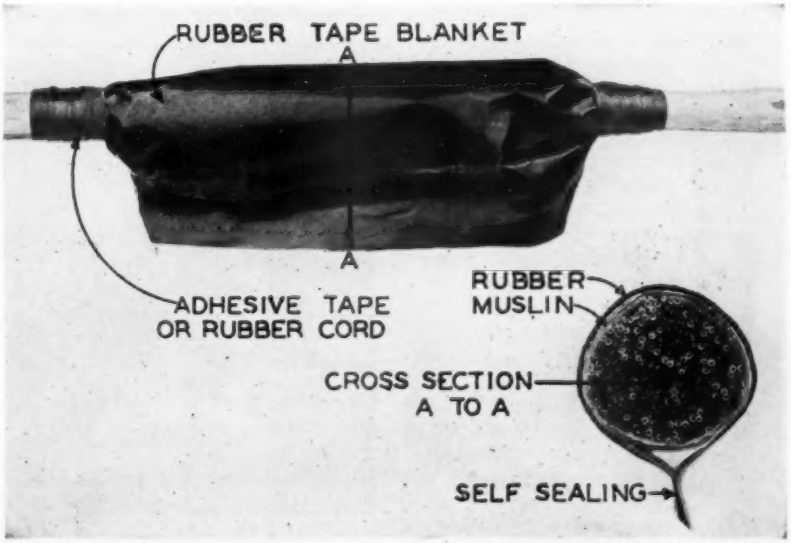


Fig. 7. Protection of temporary sheath opening in underground cable.

rosive tape. This tape is available in various widths.

In making insulation repairs, the tape should be laid lengthwise along the wire with the adhesive side toward it, then folded around the wire and the two adhesive sides pressed together. The excess tape may be removed with shears. Never wrap several layers of tape around the wire, the insulation characteristics of the tape are such that one layer will do the job. Properly performed, the finished job will be very little larger than the original paper insulation. Friction tape never should be used for this purpose as it may cause corrosion.

The following widths of tape will be found useful for the repair of damaged insulation:

For 24 and 22 gauge—¼ in. wide
For 19 and 16 gauge—½ in. wide
For 16 and 13 gauge—¾ in. wide

The width required will be determined by whether it is single or double wrap insulation. Due to the small amount required and its low cost, the ¾ in. or 1 in. width may be used to advantage for all repairs and the excess removed with shears.

Some cable repairs may be made permanent almost as quickly as temporary ones. *Fig. 10* shows a minor repair where one wire had to be spliced out by using sleeves. Several other wires were insulated with non-corrosive tape and the sheath permanently repaired by soldering with an ordinary soldering iron. This permanent sheath repair was made in much less time than if it had been taped and later a return trip made to wipe on a sleeve or even to

(Please turn to page 29)

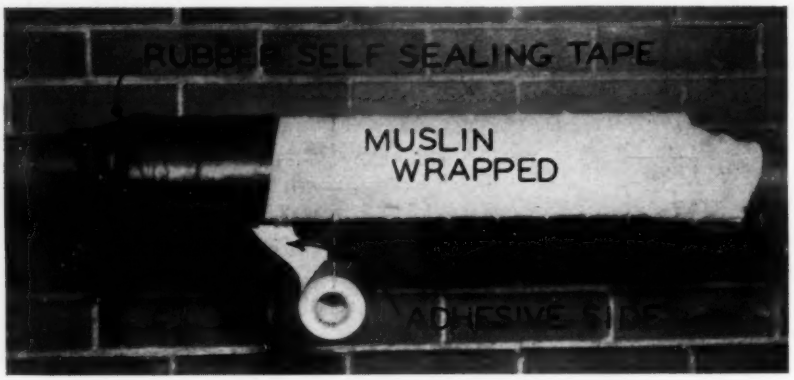


Fig. 8. Temporary protection of splice in underground cable.

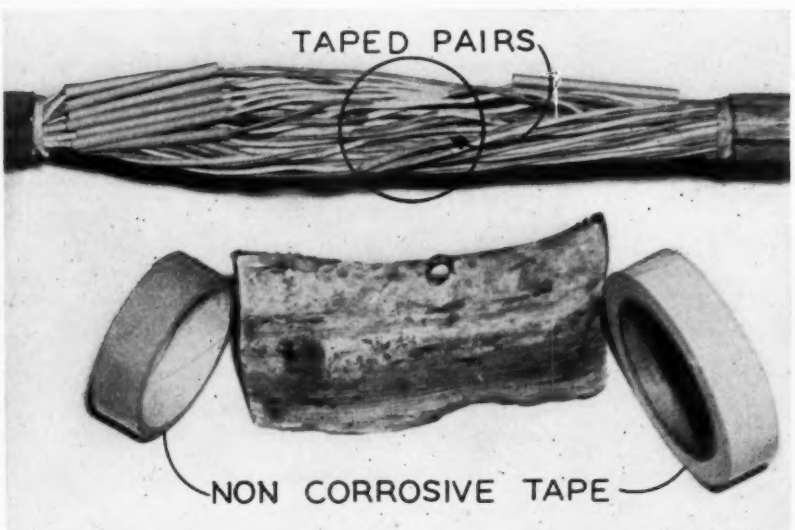


Fig. 9. The use of non-corrosive tape for making temporary and permanent cable repairs.

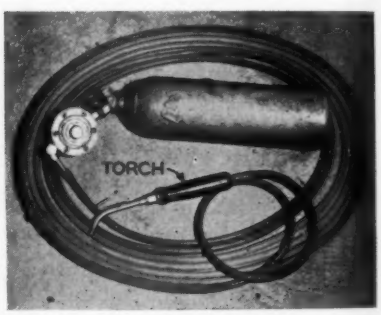


Fig. 11. Equipment for making sheath repairs.

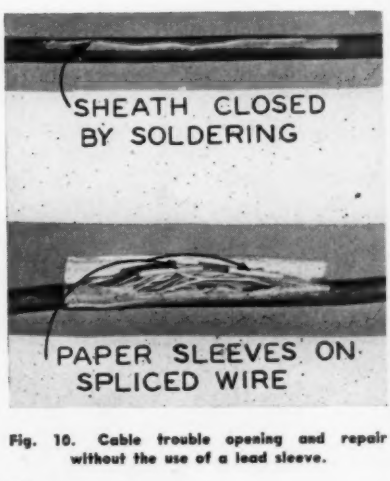


Fig. 10. Cable trouble opening and repair without the use of a lead sleeve.

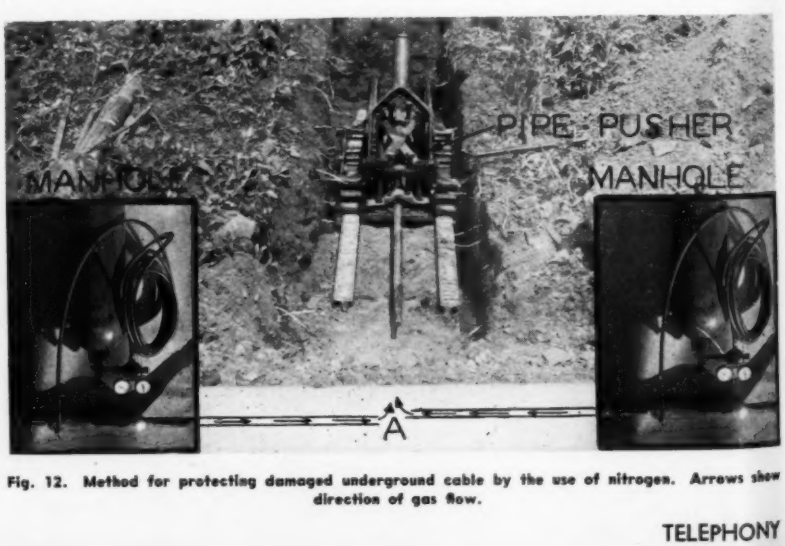


Fig. 12. Method for protecting damaged underground cable by the use of nitrogen. Arrows show direction of gas flow.

WPB files of correspondence and reports from private business should be protected from "snoopers" and governmental regulatory bodies. . . . WLB telephone commission to dispose of voluntary application for approval of wage adjustments.

NOW that the War Production Board control over utilities has ended (with the possible exception of temporary continuation of telephone Order U-2), some question has arisen as to what steps should be taken to preserve the confidential nature of the data collected in files of the Office of War Utilities. Presumably these files will remain in the custody of WPB after the OWU ends its existence on September 30.

But the WPB, itself, is quite likely to close up shop, even with respect to its remaining skeleton details (or "graveyard patrol," as they are being called) about the first of next year, or shortly thereafter. After that, the files of WPB presumably will become part of the archives of the United States Government. As such, they are subject to inspection by other government agencies upon a request and representation that other such government agencies have reasonable use for information contained therein.

But we all know that the experience of the WPB, in general, and of the OWU, in particular, was an interesting and highly successful example of cooperation between government and industry in the mobilization of all national resources for the war effort. It was a mobilization, the secret of which our enemies never learned and would like very much to have learned.

How did peace-loving, good-natured America suddenly turn on her heels and get down to such an efficient war-making basis in such a short time? It is a secret well worth keeping from those who do not have a very good reason for finding it out. We all hope there never will be a need for another mobilization of American industry for war. But if there is, quite possibly some of the WPB procedures and techniques will be well worth re-examination.

For that reason, it is not too soon to give thought to protecting these records and the vast amount of statistical and other industrial data collected from indiscriminate inspection, even by employes in other government agencies.

Congressional investigation into the loyalities of some government personnel within the past few years has at least shown enough infiltration of foreign ideologies so that a cautious man hardly would care to guarantee or underwrite the wholehearted loyalty and patriotic discretion of everybody in the government service in years to come.

The secret of radar improvements, for example, which now has been made public, well might have been disclosed to alert foreign enemy agents if they had had direct or indirect access to WPB files during the war years. It is no less important that these files be kept under very good lock and key during peace years. There are other military secrets aside from radar, which have *not* been made public, and probably should not be made public for some time, as a matter of national defense.

Already a certain federal regulatory agency (not the Federal Communications Commision) has shown some interest in going through statistical data from a certain utility industry, collected by WPB for an entirely different purpose. The explanation given is that such information might prove helpful to this regulatory agency in performing its functions.

The question immediately arises — should staff officials of this agency, some of whom have been identified as quite sympathetic with some foreign ideologies, be turned loose with paper and pencil and perhaps photostatic machinery in the WPB's files, to browse at will? What guaranty have we that such information might not,

even inadvertently, find its way into hands of persons who are not interested in regulation? Indeed, it is not inconceivable that if the information were of sufficient strategic importance, it might possibly find its way into foreign capitals.

Sometimes, the seemingly most innocent details concerning materials and supplies are sufficient to put an alert observer on the trail of highly secret wartime developments.

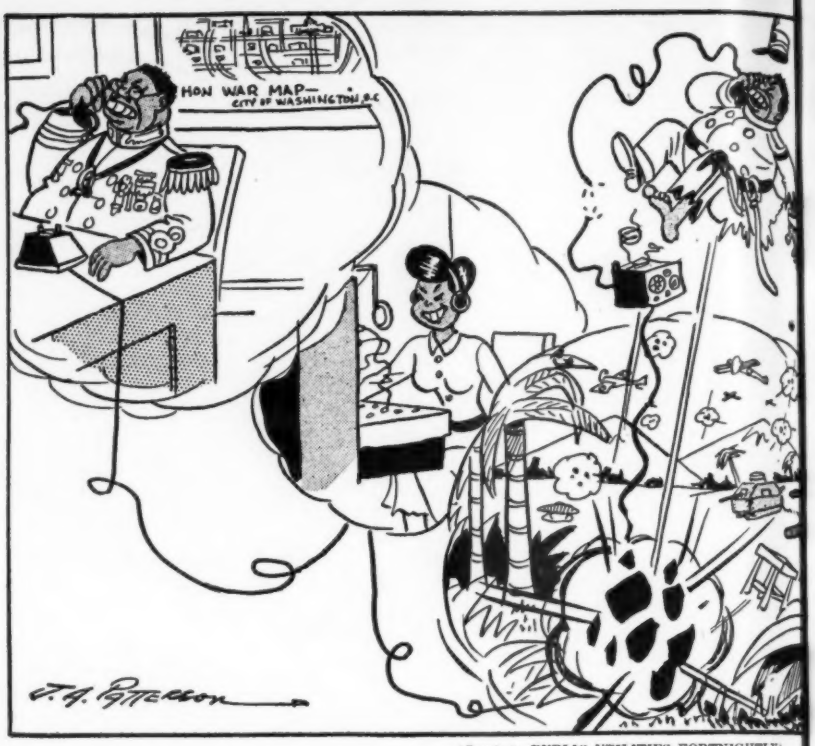
Suppose, for example, our own espionage agents in Germany had obtained from the German prototype of our own WPB, the bare information that Nazi ordnance production was requiring large quantities of hydrogen peroxide; they would have had sense enough to realize that our blond Teuton enemies were not using the stuff to bleach their hair. It easily might have put our own experts on the track of the motive power for the diabolical V-bomb—a secret which we didn't find out about until after the shooting was over.

Even for regulatory purposes, it is difficult to see what justification there is in having communications which the WPB conducted with private industry, for an entirely different purpose, turned over to regulatory authorities at a later date, to be used, perhaps, against the interests of businessmen who were trying to be frank in the interests of national defense. It smacks of something like using income tax information for purposes which have nothing to do with income tax.

There is a law against the government's using information which the individual taxpayer gives it in his income tax return. Such information is, and should be, confidential and restricted to tax purposes. There is no reason why the millions of letters, statistical estimates and other items of information which private business voluntarily has furnished the WPB during these recent war years, should not be given an equal amount of protection as private and privileged correspondence.

There probably are a number of letters which businessmen, manufacturers and others have written, at sometime or another, during the war to the WPB entirely in the interest of the war effort which could prove embarrassing if they turned up in the hands of other government agencies, such as the federal regulatory commissions, state regulatory commissions and, perhaps, even run-of-the-mill politicians, union leaders, newspaper reporters, etc.

Of course, we have a right to assume that the archives of the United States Government are not entirely open to any Tom, Dick or Harry who wanders in off Pennsylvania Avenue with a long nose and a sharp pencil. When WPB passes out of official existence, Congress could make the situation a great deal clearer, by the enactment of brief and simple provisions of law which would put a tight lock on these documents and keep the key in a good, safe place.



(Courtesy, PUBLIC UTILITIES FORTNIGHTLY)

"So solly, number to which honorable commander was talking has been temporarily disconnected."

* * *

The National Telephone Commission of the National War Labor Board on August 30 moved to dispose as rapidly as possible all pending voluntary applications for approval of wage adjustments following a conference with the Office of Economic Stabilization concerning certain cases involving the question of possible rate relief.

The cases in question are those voluntary applications in which the employer has stated that he has no present intention of seeking rate relief, but was reserving the right to include the proposed wage increases as part of the company's expenses in any future proceedings before state and federal agencies which regulate utility rates.

It was determined that these cases will be considered by the commission in the same light as cases in which an employer stated that he would use the proposed increases as a basis for seeking an increase in ceiling price and will be referred to the Office of Economic Stabilization if the commission approves an increase.

Chairman Pearce Davis of the commission emphasized that these cases will be acted on as rapidly as possible.

Pursuant to General Order No. 40, which allows certain voluntary or agreed upon wage increases to be put into effect without approval under specified conditions, the commission already has returned 102 applications to the parties with a notice that the proposed adjustments did not require approval under the new rules. The applications did not contain the qualifying statement pertaining to possible rate relief.

However, most of the applications, Mr. Davis said, contain the reservation that the wage adjustments may be included as expenses in proceedings before the rate-regulating agencies. These will be acted on and referred to the OES, if an increase is approved, as expeditiously as possible, he said.

General Order No. 40 was issued pursuant to Executive Order 9599 of the President. It provides that voluntary or agreed-upon wage adjustments may be made without approval of the NWLB or any of its agencies "upon the condition that such increases will not be used in whole or in part as the basis for seeking an increase in price ceilings or for resisting otherwise justi-

fiable reductions in price ceilings, or, in the case of products or services being furnished under contract with a federal procurement agency, will not increase the cost to the United States."

* * *

Joseph P. Selly, president of the CIO American Communications Association, has filed two recent protests on behalf of telegraph workers which are somewhat novel. On August 22, Mr. Selly protested to Secretary of the Navy Forrestal, as well as to Chairman Porter of the FCC, against the use of soldiers, sailors, jeeps and many other army and navy facilities and personnel to expedite the delivery of telegrams.

Western Union officials explained that the Army and Navy had volunteered to help out (only temporarily) during the tidal wave of communication traffic incident to the period of the Japanese surrender. It was pointed out also that many of these telegrams were, in fact, cancellation orders, the prompt delivery of which was in the interest of the American taxpayers.

However, Mr. Selly charged that it was, in effect, government competition with labor and, therefore, improper. From previous expressions of opinion by Mr. Selly, we may gather that he believes government competition with management is O.K., but it is all wrong when it threatens to compete with paid labor.

Mr. Selly's other protest was addressed to the War Labor Board on the subject of special services by Western Union messengers. During the war the use of telegraph boys to deliver so-called "singing telegrams," walk dogs, and perform other odds and ends of public convenience and necessity was prohibited. Mr. Selly wants this prohibition against special services continued even through peacetime. He claims that "singing telegrams" and such stuff are "a lot of nonsense" and generally detract from the dignity of labor, exposing telegraph boys to ridicule.

Western Union officials claim that these special services before the war earned considerable revenue and, for that reason, should be resumed as a matter of managerial policy. In any event, D. E. Krueger, divisions manager of industrial relations for Western Union, says it is outside the sphere of the union to say in what manner the company should make its profits, if any.

"The employer should be allowed to run his own business," said Mr. Krueger.

The War Labor Board still has the matter under advisement and probably hopes Mr. Selly won't come in again with a protest against the color or cut of the uniforms, or other puzzling matters.

* * *

Between $3,000,000,000 and $5,000,000,000 in new and used electronics and radio communications equipment, produced for the armed forces, will be disposed of by approximately 225 radio manufacturers throughout the nation, the Reconstruction Finance Corp. announced recently.

The RFC said the radio and electronics manufacturers will make repairs, tests and modifications before the equipment will be offered for commercial use.

Included in the equipment will be several thousand walkie-talkie sets, which the RFC said would be adaptable for use by police and fire departments, railroads, in golf tournaments, and for protection of property.

The Art of Getting Along

In these days of pressure and strain, it is good idea to stop for a minute and take a personal check on the uncommon art of "getting along." In this connection, a craftsman of the Tomlinson Co., North Carolina, noted for his ability to take things in his stride, was asked for some thoughts on the subject. Here are his suggestions:

Sooner or later, a man, if he is wise, discovers that life is a mixture of good days and bad, victory and defeat, give and take.

He learns that it doesn't pay to be a sensitive soul—that he should let some things go over his head like water off a duck's back.

He learns that he who loses his temper usually loses.

He learns that all men have burnt toast for breakfast now and then, and that he shouldn't take the other fellow's grouch too seriously.

He learns that carrying a chip on his shoulder is the easiest way to get into a fight.

He learns that the quickest way to become unpopular is to carry tales and gossip about others.

He learns that most people are human and that it doesn't do any harm to smile and say "Good morning," even if it is raining.

He learns that most of the other fellows are as ambitious as he is, that they have brains that are as good or better, and that hard work and not cleverness is the secret of success.

He learns that it doesn't matter so much who gets the credit so long as the business shows a profit.

He comes to realize that the business could run along perfectly well without him.

He learns to sympathize with the youngsters coming into the business, because he remembers how bewildered he was when he first started out.

He learns not to worry when he does not make a hit *every* time, because experience has shown that if he always gives his best, his average will break pretty well.

He learns that no man ever got to first base alone and that it is only through co-operative effort that we move on to better things.

He learns that the fellows are not any harder to get along with in one place than another, and that "getting along" depends about 98 per cent on himself.—*The Blue Bell*.

>> *When Winston Churchill moved from 10 Downing Street he stayed at Claridge's Hotel, London, until he could find an apartment. A few days later he walked along the hallway with Brendan Bracken, former head of the ministry of information, to wait for the elevator. When the elevator came, in response to Churchill's bell pushing, the elevator man opened the door. He had some other passengers.*

The former prime minister and Mr. Bracken continued talking in the hallway, unmindful of the passengers, who could overhear their conversation.

"Will you call me tomorrow?" asked Mr. Bracken.

"Yes, I'll call you tomorrow," said the recently defeated prime minister. "At least, they've left us a telephone."—**Chicago *Daily News*.**

THE PLANT MAN'S NOTEBOOK

BY RAY BLAIN • TECHNICAL EDITOR

DISCUSSION often is heard concerning the need of an all purpose truck for the small telephone company. We still vote for the jeep and invite your attention to the pictures of its applications which appeared in the July 30, 1945, issue of *Life* magazine. A pole-digger attachment is shown which should prove ideal for a small company's use.

* * *

The writer recently enjoyed a long conversation with Donald Erickson, engineer of the Kellogg Switchboard & Supply Co., Chicago, recently returned from Europe where for the past nine months he has been employed as a technical observer for the Signal Corps. He had some very interesting experiences in connection with the provision of wartime wire communication.

* * *

Students of telephony often look at a complicated circuit drawing feeling they never will be able to understand it. Usually they take the attitude that it is similar to a difficult foreign language which can be mastered only after long and arduous study. However, that is far from true, if the confused student only will observe a few simple rules.

First, it is not necessary for the average telephone man to memorize circuits if he is familiar with the various standard symbols and has a knowledge of what they mean when used in a drawing. Next, study the circuit and make sure you know what it is designed to accomplish. Study and become familiar with the functions of component parts such as condensers, induction coils, transmitters, receivers, relays, etc. Become familiar with the principles of current flow and Ohm's law.

Always remember that DC will not flow through condensers, but will flow through retardation coils. On the other hand, AC will flow through condensers, but is considerably reduced by retardation coils. Also, DC will not pass from one winding to another of an induction coil, transformer or a repeating coil, but AC will do so. Bear in mind, also, that voice currents are weak AC, ranging in frequency from about 200 to 3,000 cycles. Ringing current for straight line operation is about 20 cycles. Ordinarily, relays are operated with DC.

The student who learns and observes these simple rules should not experience any difficulty in learning to read circuit drawings. It is always best, however, to begin on simple circuits and then gradually work up to the more complicated ones.

* * *

By the proper application of loading, the transmission efficiency of a telephone circuit is improved through one or more of the following factors:

(1) Reduction of the attenuation of the circuit.

(2) More equal attenuation of various frequencies which release distortion.

(3) More constant characteristic impedance for the frequencies being transmitted.

* * *

"Nothing is more precious than human life, and so, nothing could assume a greater importance than an organized endeavor to make our work a safer and less hazardous activity. In the telephone industry, safety is the first consideration of every job. Safety is defined in the dictionary very briefly as 'freedom from danger,' just three words, but to each of us who hope to secure this freedom, it means a lifetime job—in fact, a duty."

So stated John A. Thomson, safety methods engineer, in a recent issue of *Southern Telephone News*.

* * *

The writer is the proud possessor of a new German handset dial telephone received from H. F. Timmons of the engineering department, Kellogg Switchboard & Supply Co., who now is technical representative for the Army Air Forces in Europe.

This telephone is rather neat, but as compared with ours, the transmission is poor. The condenser and coils are similar to the radio type we now use, and the gongs, which have a good tone, are pyrex glass. The bells are not biased and tingle when the operator plugs in on the line.

The handset is long and slender. A measurement from the center of the receiver to the center of the transmitter is an inch longer than ours, which would seem to indicate that the Germans had long faces even before the end of the war. The handset cord is four-conductor braided and the outer braid is of poor quality.

The dial is trim, but rather noisy. In addition to numbers under the finger plate, they also are around the edge of the center where we have our number plate, their number plate being on the front of the base. A push-button is mounted on the base and serves to flash the operator.

The connecting block has a feature we consider good. There are two plugs which, when removed, open the line on both sides. This is convenient for use when working on an instrument.

The telephone weighs less than ours. The base is on rubber legs and is perforated to pass the sound of the bells.

Maj. M. J. Luichinger, Signal Corps, returned recently from the Pacific Theater of Operations, decorated with service ribbons and four battle stars. Major Luichinger, in civil life an employe of the Indiana Bell Telephone Co., related an experience of cable trouble in which the entire cable went out after a rain and, upon inspection, it was found that the lead sheath was missing and the paper exposed for about 20 feet.

He then noted where a shed had burned down under the cable and learned this had happened about one month previous to the trouble experienced with the cable. Strangely enough, the fire had melted the lead without charring the paper or causing any difficulty on a single working line. The entire cable operated satisfactorily for over a month, or until the first rainstorm came.

* * *

We have a letter from Lyndon Farwell, secretary-manager of the Los Gatos (Calif.) Telephone Co., in which he makes the following comment with reference to an item on this page published in the June 30 issue concerning the use of telephone wall niches:

"I would like to take exception to your suggestion on page 23 of the June 30 issue showing a built-in telephone cabinet for a handset. It is true that such a niche lends itself to concealed telephone wires, but that is about as far as its benefits go.

"The objections to such a niche, to my mind, are:

"(1) It establishes the location of the telephone once and for all without regard to the particular family which occupies the house. Some homes may find it far more desirable to have the telephone in the kitchen, while others may receive more calls while in the bedroom or living room.

"(2) There is no place to write notes (except on the wall space) and no chair on which to be seated while talking.

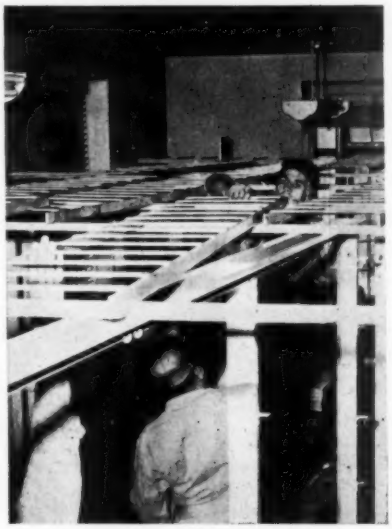
"(3) The family may want two telephones, one in the kitchen and one in the bedroom, thus leaving the niche vacant and a problem to handle from a standpoint of decoration.

"(4) A niche tends to build up subscriber resistance for an extension telephone. The niche usually is attempted to be 'centrally located' and the subscriber almost looks at it as a location chosen by some master telephone engineer, not to be disregarded at any cost.

"I always have found that the telephone requirements and location of instruments for a particular house vary with almost every family, and also vary for the same family from time to time as family conditions change."

We admit that this is true, but having lived in houses where the wall niche was not used to hold a telephone, we do not consider this a serious point. This is a fine location for a growing vine, plant or a small ornament of almost any kind. Also, we believe that the wall niche tends to keep telephones put and avoids many inside moves. Neither does it, in our opinion, tend to reduce the use of extension telephones. However, we appreciate the views of Mr. Farwell and realize that many telephone men will agree with him.

* * *



The accompanying photograph shows the installation of framework and cable runs ready for the cabling of a modern dial exchange. Note that the ceiling height is adequate and that cable runs need not be crowded. This always is an important consideration and should receive careful attention when designing telephone equipment buildings.

* * *

Transportation for local trouble shooters always has been a problem. In the olden days when speed and efficiency were not important factors, a bicycle or a horse and buggy was considered sufficient. Later, the motorcycle was tried, but was not, in general, considered a success. It was not only dangerous, but it was difficult to transport the necessary supplies on it.

Since the automobile came into general use, it has proved adequate in every way in the provision of telephone transportation. The only improvement we would suggest is the use of a small, lightweight car for local trouble work. A car of this type should prove economical to operate, be easy to park in congested sections and permit a trouble shooter to carry the necessary stock of repair parts and material.

A recent press release describes a 1,600-ft. open wire span which was placed across the Rhine River by the 36th Signal Heavy Construction Battalion in the final days of the European war. This span was named, by the men who built it, the Harry C. Ingles Span, in honor of the Chief Signal Officer of the Army. A German steel wire of heavy weight was used which was supported on 65 and 70-ft. poles.

* * *

Crews stationed in floating dormitories and on ships under repair in West Coast shipyards appreciate the convenience of portable, weatherproof pay-station booths. We are of the opinion that booths of this nature could be used to advantage in many locations where temporary telephone service may be required.

* * *

While watching a tree surgeon work recently, it was noted that all of his saws were protected carefully by scabbards. The small saws were equipped with leather scabbards, while the larger ones were fashioned from wood. Neither of these types should be very expensive and certainly they would provide adequate protection for saws of all types. Telephone companies might follow the example of this tree surgeon in obtaining maximum service from their saws.

* * *

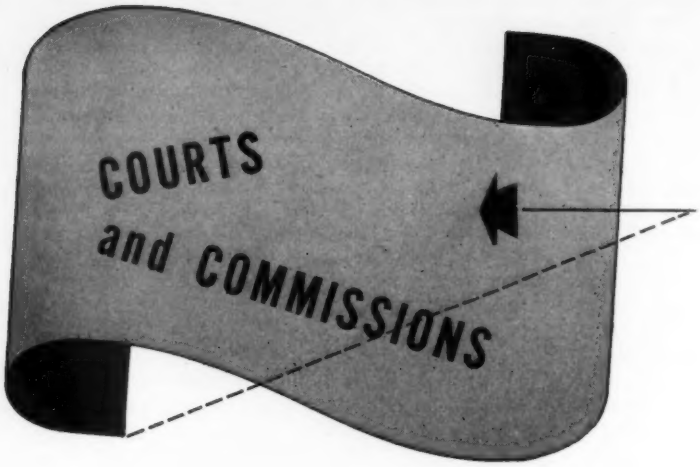
It has been said that a coordinator is one who changes regimented confusion into organized chaos.

* * *

It is reasonable to assume that solderless terminals will be used extensively in the telephone industry after everyone becomes familiar with their use. A secure mechanical grip is provided on the wire by pressure applied by a special tool. Telephone people are acquainted with the compression type sleeve and know that it is positive in action as well as trouble-free. The solderless terminal connection is similar to the above and just as reliable. It seems probable that when this terminal comes into general use, we will not consider wrapping a wire around a screw terminal, but will, instead, use one of these new pressure terminals to make the connection. The wire wrap causes considerable trouble which could be prevented by the use of the new terminal.

* * *

Telephone service between New York and Chicago, a distance of 950 miles, was opened October 18, 1892.



West Virginia Commission Hears Telephone Campaigner

The Public Service Commission of West Virginia, Charleston, set August 31 as the hearing date of the case of George D. Moore, who has been carrying on a one-man campaign to have more telephones made available.

Mr. Moore, statistician for the West Virginia Mileage Committee, went to the commission after an application for a telephone was rejected last January.

Mr. Moore wants the Chesapeake & Potomac Telephone Co. to list all extension telephones in privates homes, not in the exempt class, so that they may be made available to persons who have not been able to get service.

The company contends that whether or not Mr. Moore is entitled to a telephone is under jurisdiction of the War Production Board which denied his application.

Furthermore, the company holds, every person who has an extension telephone should be made a party to Mr. Moore's action so that each case could be determined individually.

V V

Ohio Bell Asks O.K. to Operate Radio-Telephone Station

The Ohio Bell Telephone Co., Cleveland, announced August 29 that it has applied to the Federal Communications Commission for permission to operate a radio-telephone station in Cleveland to provide service to various types of motor vehicles.

Present plans call for a 250-watt transmitter, connected to the general telephone network. The application to the FCC requested permission to operate an initial installation of 20 mobile units, including six on Ohio Bell automobiles.

Installation of others, said F. P. Merrick, division commercial manager of Ohio Bell, would depend upon public demand and availability of equipment.

Mr. Merrick said construction of the transmitter and receiving equipment would start about two months after FCC approval of the application, and completion would require approximately three months.

V V

D. Lane Powers Joins New Jersey Commissioners

D. Lane Powers resigned from Congress, effective August 30, to become a member of the New Jersey Board of Public Utility Commissioners, Trenton.

A Trenton Republican, Mr. Powers was appointed to the state agency in April by Gov. Walter E. Edge and immediately was confirmed by the state senate. He succeeds Crawford Jamieson, Trenton Democrat, who held over as a member of the commission until the new appointee left his Washington post.

Mr. Powers served in the House of Representatives at Washington since 1932 as representative of the Fourth Congressional District, comprising Burlington and Mercer counties.

V V

Sues Missouri Company For $10,000 Damages

A suit for $10,000 damages was filed in the circuit court at Poplar Bluff, Mo., August 24 by Kathryn Tyler of Holcomb against the Southeast Missouri Telephone Co. for injuries suffered last month.

Miss Tyler, 19, alleged, in a petition filed in the office of Circuit Clerk Charles H. Woods, that she was injured seriously when struck by a telephone line while riding in the rear of a pickup truck. She stated the telephone line was hanging about nine feet from the crown of the highway and struck her, disfiguring her neck and throat which were cut and lacerated and permanently injured.

V V

Fined for Disturbing The Peace Via Telephone

Howard Lampkin, a 14-year-old Negro, charged on two counts with disturbing the peace by calling a white girl on the telephone and asking her for dates several times within a week, was fined $50 and costs and sentenced to three months in jail on each count August 28 in Arkansas Municipal Court, Texarkana.

Young Lampkin was arrested August 25 by city police of Arkansas after the girl reported that he had been calling her all week and saying insulting things over the telephone.

V V

Independent Owner Buys Another Illinois Company

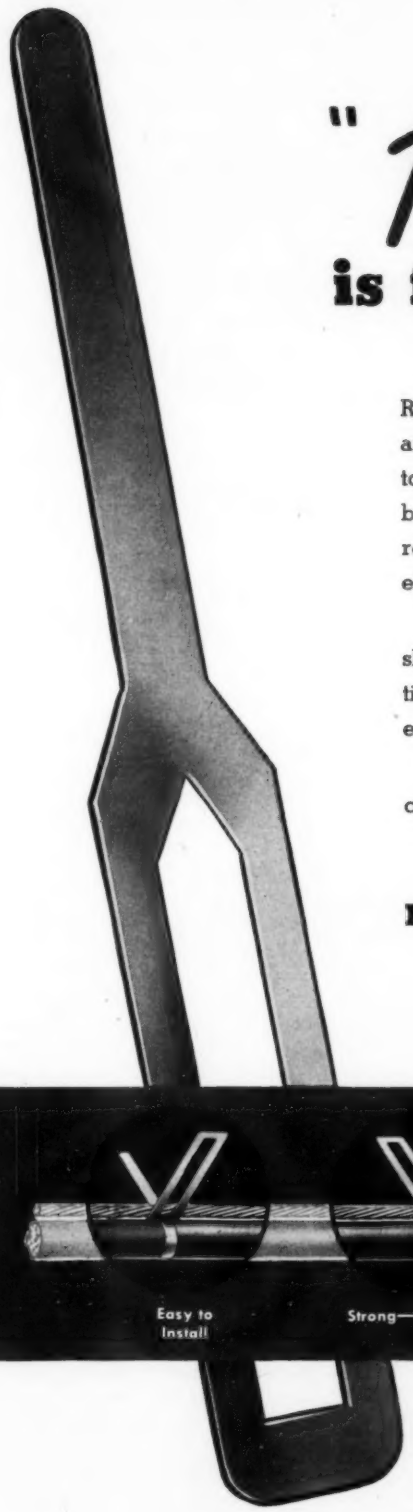
Leo E. Breithaupt, owner and manager of the Pocahontas (Ill.) Telephone Co. for the past eight years, announced August 24 his purchase of the Odin Telephone Exchange Co., Sandoval, also serving Odin, from T. D. Doty, who is retiring from active business partially because of ill health.

The two exchanges of the Odin company have a total of more than 500 telephones.

V V

REA Money May Force Service Transition

With nearly two million dollars of Rural Electrification Administration money having been allotted to Nebraska, members of the Nebraska State Railway Commission are looking forward to a renewal of the old warfare in which they have been the umpires between these new constructions



"Reliable"

is the word for it!

Reliable ZINC Cable Hangers wrap around the cable, securely attaching them to the messenger, minimizing creep, bowing and fatigue. No sheath cuts—no replacement of rings—no expensive equipment needed. Will outlast the cable.

The ZINC hangers bond the cable sheath and strand to give added protection against lightning. They are strong, easy to install and economical.

Also available in copper for use with copperweld or bronze messengers.

Build for the future—specify "Reliable."

RELIABLE ELECTRIC COMPANY

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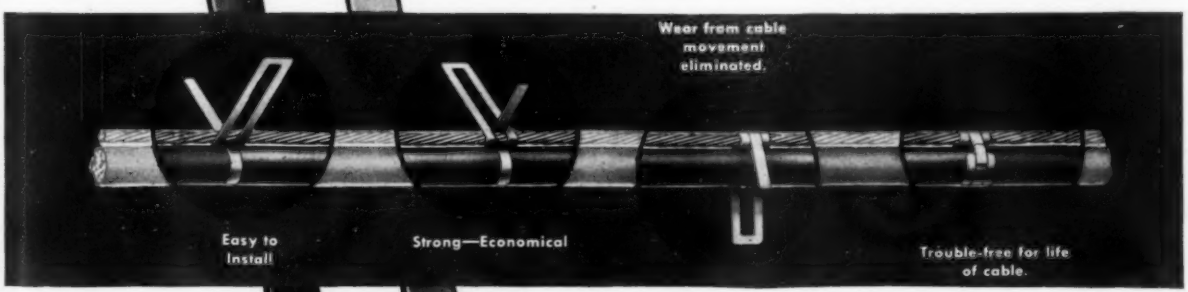


OVER 35 YEARS SERVICE
TO THE TELEPHONE INDUSTRY

and the smaller Independent telephone companies of the state.

One result that is expected will be a forced transition by the latter from grounded to metallic service, but this comes at a time when only a comparatively few of these companies have the financial resources to meet such costs. With the larger companies, this transition has been made quite generally, but less than one-third of the smaller companies has applied for increases in rates over those that prevailed during the depression.

In the past, the commission has been firm in the stand that the costs must be shouldered by the federal agency, but it has been equally firm in refusing and repeatedly has announced that no power lines would be built where this condition was insisted upon.

V V

Sells Oregon Independent

The Public Utilities Commissioner of Oregon on August 24 authorized the sale of the Pine Telephone System, Halfway, which serves Halfway, Cornucopia, Homestead and Robinette, by Sylvester Marker, owner, to Ernest E. Huff for $6,000, effective September 1.

V V

Asks Rate Increase

A public hearing was ordered July 30 by the Public Utilities Commissioner of Oregon on the request of the Bellfountain (Ore.) Telephone Co. for a rate increase of 25 cents a month for business and residential party line service.

V V

Hears Increased Rates Request

The North Dakota Public Service Commission called a public hearing at Manfred August 2, in the matter of the application of the Manfred Farms Telephone Co., for authority to increase telephone rates.

V V

Summary of Commission Rulings and Hearings

Federal Communications Commission

August 13: Granted American Telephone & Telegraph Co. authority to supplement existing facilities between Richmond KS Repeater Station and Norfolk, Va.

August 13: Granted New England Telephone & Telegraph Co. authority to supplement existing facilities between Waterville and Skowhegan, Me.

August 20: Granted Radio Corp. of Puerto Rico, Sabana Llana, extension of special temporary authority to point-to-point radio-telephone station in fixed public service, using regularly licensed equipment, power and emission, to communicate with All America Cables & Radio, Inc., at St. Thomas, V.I., on frequencies 2530, 4675 and 5250 kilocycles, conditionally, from August 22 until further commission order, but not beyond November 22.

August 20: Granted American Telephone & Telegraph Co., Long Lines Department, Ojus, Fla., construction permit for additional transmitter at point-to-point telephone station.

August 20: Granted Illinois Bell Telephone Co., Chicago, special temporary authority for experimental Class 2 coastal harbor station; granted authority to offer for hire common carrier coastal harbor service maintaining satisfactory alternative communications circuits to handle traffic; frequencies to be assigned from time to time by commission's chief engineer. Denied request to use station for test operations in proposed general mobile radio service.

August 21: Granted Mutual Telephone Co. construction permits for two point-to-point stations, located near Honolulu, Oahu, using frequency 35,300 kilocycles, conditionally, and only during present unlimited emergency, and at Kalaupapa, Molokai, using frequency 33,900 kilocycles, conditionally.

August 21: Granted Illinois Bell Telephone Co., Lake Bluff, modification of license for coastal harbor radiotelephone station WAY to authorize operation on frequencies 2782 and 4162.5 kilocycles, unlimited, 1,000 watts day only and 500 watts, night; 6455, 8840 and 11,090 kilocycles, 500 watts, day only; A2 and A3 emmissions; authority to communicate with ships on Mississippi River and connecting inland waters.

August 21: Granted American Telephone & Telegraph Co. at Lawrenceville and Ocean Gate, N. J., three months' authority to communicate with Marconi Radiotelegraph Co. of Egypt, S.A.E., Cairo, Egypt, to conduct two-way radio-telephone transmission tests and public radio-telephone service, on condition operation causes no interference with armed forces' circuits.

August 21: Granted application of Michigan Bell Telephone Co., Detroit, for construction permit for experimental Class 2 coastal harbor station; granted authority to offer for hire common carrier coastal harbor service while maintaining satisfactory alternative communications circuits for handling traffic; frequencies to be assigned from time to time by commission's chief engineer.

Illinois Commerce Commission

September 5: Hearing on application of Lamotte Cooperative Telephone Co., Palestine, for increased rates there and at Heathsville.

September 5: Hearing on application of Plymouth (Ill.) Farmers Switchboard Co. for authority to increase rates.

Kansas State Corporation Commission

September 10: Hearing on application of Peoples Telephone Co., Lebanon, for authority to make certain rate changes.

September 10: Hearing on complaint of Vliets (Kan.) Mutual Telephone Co. against Axtell (Kan.) Mutual Telephone Co. concerning territory invasion.

September 10: Hearing on application of Wilsey (Kan.) Mutual Telephone Co. to make rate changes.

September 18, 19 and 20: Hearing on application of Southwestern Associated Telephone Co., Lubbock, Tex., for increased rates at Oklahoma exchanges. Postponed from September 4, 5 and 6.

Minnesota Railroad & Warehouse Commission

September 12: Hearing on joint application of Randall (Minn.) Rural Telephone Co., seller, and C. A. Turnquist, purchaser, for sale and transfer of certain telephone property.

September 17: Hearing on application of Farmers Interurban Telephone Co., Rock Dell, for authority to increase rates.

Wisconsin Public Service Commission

September 5: Hearing on application of City Point (Wis.) Telephone Co. for authority to dissolve.

V V

Emergency Switchboard Center Planned at Albany, N. Y.

The New York (N.Y.) Telephone Co. drafted plans in 1940 for an emergency switchboard center to be set up in the lobby of the Hotel Ten Eyck in Albany, N. Y., in the event of a Nazi bombing of the Albany telephone building, it was revealed August 20.

The plans were so complete that by turning two small keys on a PBX switchboard in the hotel lobby, the state government in Albany would be in contact with all the large centers of the U.S.A., including Washington and New York.

V V

Member Companies Vote On Annual Meeting

Secretary George M. Kloidy of the Nebraska Telephone Association is taking a referendum of member companies to find out whether they desire the holding in October of district conferences at Holdrege, Norfolk and Beatrice, or whether they desire a state-wide convention to be held at Lincoln.

Conferences were held at those centers last June, with large attendance and great interest. Replies, indicating attendance, will guide the directors in their action.

V V

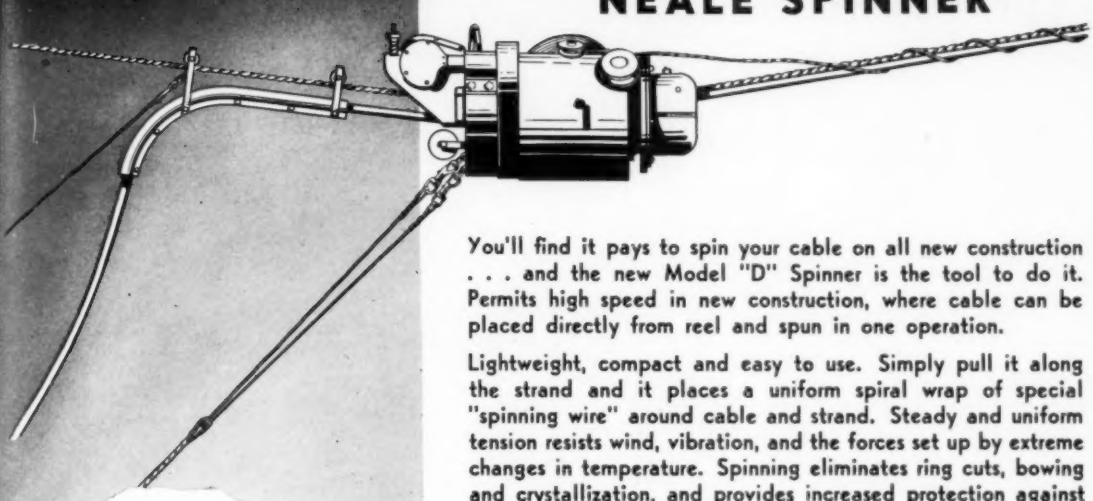
Holds Annual Convention

Due to the easing of transportation regulations by the Office of Defense Transportation to include 150 persons, the Virginia Independent Telephone Association has announced plans to hold its annual convention on October 25 and 26, 1945, at the Hotel Roanoke, Roanoke, Va.

Protect Your Cable . . .

Lower Your New Construction Costs!

The NEW "PULL-TYPE" NEALE SPINNER



You'll find it pays to spin your cable on all new construction . . . and the new Model "D" Spinner is the tool to do it. Permits high speed in new construction, where cable can be placed directly from reel and spun in one operation.

Lightweight, compact and easy to use. Simply pull it along the strand and it places a uniform spiral wrap of special "spinning wire" around cable and strand. Steady and uniform tension resists wind, vibration, and the forces set up by extreme changes in temperature. Spinning eliminates ring cuts, bowing and crystallization, and provides increased protection against lightning, power crosses and tree damage. Write today for full information.

PULL TYPE SPINNER *FACTS*

- Made primarily for new construction —does not require temporary cable suspension.
- Quickly adjusted to take cable from 11 pair, 26 gauge to 909 pair, 24 gauge, sheath diameter 2¼".
- Visible wire supply. Operates with .091 or .061 spinning wire.
- 24" long, 10" in diameter. Weight, 42 pounds.

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You Find The *Features* You Wa
in AUTOMATIC ELECTRIC Telepho

• To meet modern, up-to-date service conditions and secure the greatest value and public good-will, today's automatic switchboard must do more than simply operate and make connections—it must offer a wide selection of features designed to best meet the needs of the locality which it serves.

Investigate Automatic Electric equipment for your specific operating conditions, and you find every feature you want to provide modern telephone service efficiently and economically. Through more than fifty years of cooperation with telephone operating companies, this organization has pioneered in automatic telephony—continually meeting new problems and solving them by the to the new requirements.

That is why Automatic Electric number of standard operating optional features to solve spec operating features, like all Stro easily added to existing exchan We invite you to check these too, how many of these fea products of the technical skill ahead in automatic telephony.

Party-Line Service—With automatic selective ringing for up to 10 stations per line, and automatic code ringing for up to 20 stations per line. (An Automatic Electric "first")

Automatic Service on Ground-Return Lines—Including universal pulsing circuits which may be used to serve either metallic or ground-return lines. (An Automatic Electric "first")

Dial Tone—To notify the calling party that dialing may be begun.

Ring-Back Tone—To inform the calling party that the called line is being rung. (An Automatic Electric "first")

Quick Ring-Cut-Off—Halts ringing of called bell instantly—in ringing or silent period.

Automatic Intermittent Ringing — Insistent, automatically interrupted operation of calling signals.

Balanced Battery Feed — Employing two-section battery feed coil to assure line balance. (An Automatic Electric "first")

Reverting-Call Service—Permitting automatic handling of calls between parties on the same line.

Reverting-Call by Directory Number — Providing automatic reverting service without special codes.

Automatic Service on Extremely Long Lines—Automatic dialing over lines of up to 1500 ohms loop resistance, or with line leakage as low as 15,000 ohms. Provides dependable automatic operation on any line satisfactory for telephone transmission.

Reverting-Call Answer Tone — Informs answering party that call has been made by another party on the line—thus prevents loss of calls. (An Automatic Electric "first")

Message-Rate Service—By means of automatic meters at the central office or substation.

Paystation Service—Permitting full-automatic handling of paystation calls. (An Automatic Electric "first")

Restricted Service—Provides for grading service to meet specific rate requirements. (An Automatic Electric "first")

Unattended Operation of Small Exchanges—With automatic handling of local calls, and toll calls switched to a distant operator. (An Automatic Electric "first")

Automatic Alarm Transmission — Transmits emergency and non-emergency alarms to distant control operator. (An Automatic Electric "first")

Ringing-Machine Transfer — Automatically, or by remote control.

Automatic Power Control—Automatically switches counter cells and end cells, and activates second power source (rectifier, generator, etc.) as required.

Dial-Back Equipment — Enables toll operator to complete connection between subscribers in two different exchanges, by dialing back on the same trunk over which the call was received. (An Automatic Electric "first")

Automatic Toll operator to com sistance at term Electric "first")

"Camp-on-Busy" called line by t is busy; line is freed from first c

Calling Number to check number

Delayed Ring— and hold connec lishing connectio

Automatic Answ operator, avoidi

Choice of Dialing plex, composite, frequency pulsing

Line Lockout— change equipme

Automatic Keys pulsing facilities

Private Automat automatic interc ice, and various ing services. (An

Unattended P-A for answering an at any telephone

Systems

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the widest selection of
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Automatic Electric "firsts"—
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tic *Toll* bles toll originating
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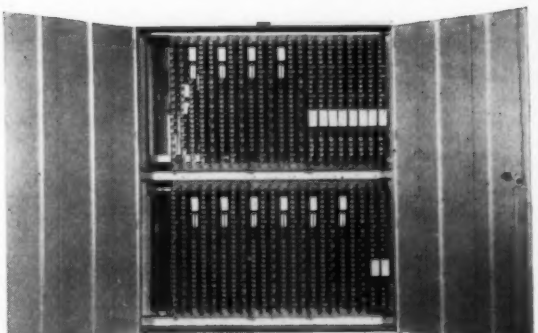
telephone

Above — In Strowger Automatic exchanges, large or small, any desired combination of service features can be provided, as required to meet the specific requirements of each installation.



Right — Automatic Electric relay-type switchboards, too, offer a complete range of valuable service features.

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Award Five Jewett Fellowships for 1945

Frank B. Jewett fellowships for research in the physical sciences have been awarded for 1945 to Dr. Elliot R. Alexander, Dr. Albert S. Eisenstein, Dr. Kenneth Greisen, Dr. Boris Leaf and Dr. Harry Pollard.

The fellowships were founded by the American Telephone & Telegraph Co., New York, N. Y., in honor of Frank B. Jewett, vice president, who retired in 1944. (TELEPHONY, October 7, 1944, page 87.) Each fellowship is for one year, and carries a stipend of $3,000, with an honorarium to the institution where the work is done.

Dr. Alexander received his Ph.D. from Columbia in 1944 in organic chemistry. Presently, he is a research chemist at the du Pont Experimental Station, Wilmington, Del.

Dr. Eisenstein received his Ph.D. from the University of Missouri in 1942, in physical chemistry. He is, at present, a member of the Radiation Laboratory staff at Cambridge, Mass.

Dr. Greisen received his Ph.D. from Cornell in 1943 in physics and mathematics. At present he is engaged in war work at Santa Fe, N. M.

Dr. Leaf received his Ph.D. from the University of Illinois in 1942 in physical chemistry. Presently, he is an associate chemist in the Metallurgical Laboratory of the University of Chicago.

Dr. Pollard received his Ph.D. from Harvard in 1942 in mathematics. Now he is a member of the Applied Mathematics Group at Columbia University.

V V

H. M. Stewart Resigns as Vice President of Telephone Services

H. M. Stewart resigned as vice president of Telephone Services Inc., Fort Wayne, Ind., on September 1 in order to assume management of his own telephone properties which consist of four exchanges located in three counties in northern Georgia.

Mr. Stewart stated that prospective postwar expansion of industry in the territories which his properties serve makes it necessary to improve and expand his exchanges in order to take care of the general increased business activities in their areas. Mr. Stewart said that he plans to acquire additional properties in Georgia and said that he intends to make his headquarters in Cornelia, Ga.

Before becoming associated with Telephone Services Inc. on June 15, 1944, Mr. Stewart was executive secretary of the Pennsylvania Independent Telephone Association. Prior to this position, he was secretary of the Texas

H. M. STEWART

Telephone Association which he joined after being district manager of sales in the southwest area for the Kellogg Switchboard & Supply Co. of Chicago.

V V

Holcomb, Mo., to Have Dial Exchange

Through the initiative and efforts of the Kiwanis Club of Holcomb, Mo., the construction of a dial telephone exchange there has been scheduled and is expected to be in operation within 90 days, according to A. E. Schniepp, superintendent of schools at Holcomb and a member of the Kiwanis Club.

To insure the installation of this new and improved service, 14 business firms of that city and 33 individuals already have paid a year's rental in advance, and the Southeast Missouri Telephone Co., Cape Girardeau, already has given the Kiwanis Club a receipt for $1,494 as advance telephone rental and installation charges, Mr. Schniepp stated.

Holcomb subscribers have been receiving service through the Kennett, Mo., exchange of the Southeast Missouri company on rural party lines.

V V

OBITUARIES

HENRY G. MILLER, 61, manager of the Fort Atkinson exchange of the Wisconsin Telephone Co., died recently in Wisconsin General Hospital, Madison, after several months of failing health. He died on the day of his 41st anniversary of service with the company.

Mr. Miller began in the construction department of the company on July 6, 1904, and went to Fort Atkinson January 8, 1915, as manager. He had been manager in Jefferson since June 1, 1913.

He was a member of the Telephone Pioneers of America.

Surviving are his widow; two sons, Donald and S/Sgt. Robert Miller, with the Army in Germany, and one daughter.

* * *

MRS. HULDA SIEBENTHALER, 50, a veteran of 33 years with the Ohio Bell Telephone Co., Cleveland, died August 21 at Lutheran Hospital.

Beginning as an operator, she rose to the post of chief operator and in recent years was engaged in special work in the traffic department of Ohio Bell. She was a member of the Telephone Pioneers of America.

She is survived by her mother, seven sisters and two brothers.

* * *

GUERDON WRIGHT WHITTAKER, 50, of Great Neck, L. I., supervising staff accountant in Manhattan of the New York (N. Y.) Telephone Co., died August 24 in Nassau Hospital, after a long illness.

Mr. Whittaker was graduated from Colgate University in 1917, and during the first World War, served as a lieutenant in the cavalry. He was a member of Company F, Veterans of the Seventh Regiment, New York National Guard.

He leaves a widow and two daughters.

* * *

WALTER H. IRWIN, 49, died at his home in Fernwood, Pa., on August 23. He was an employe of the Bell Telephone Co. of Pennsylvania, Philadelphia, and a veteran of World War I.

He is survived by his widow, a brother, a nephew and a niece.

* * *

CAPT. JOHN D. FREDERICKS, 75, a member of the board of directors of the Associated Telephone Co., Ltd., Santa Monica, Calif., died recently following a brief illness. He had served as district attorney for Los Angeles County from 1903 to 1915 and as Congressman from 1923 to 1931.

Surviving are his widow; two daughters; two sons, John D. Fredericks, Jr., with whom he was associated in the practice of law, and Capt. James B. Fredericks, U. S. Army, now in India, and a sister.

V V

Resumes Telephone Duties

ROSCOE PATTERSON, owner of the Wickliffe (Ky.) Telephone Co., recently was honorably discharged from the Navy and has resumed his duties at the 190-telephone exchange. (TELEPHONY, May 12, page 20.)

A Peace Problem

By W. L. HUDSON

SINCE the advent of community life, each generation has had specific problems that it regarded as more difficult than any that had come before or could come after.

Do you think it would be possible to convince Joshua at the River Jordan that his dilemma was less serious than that of Washington at Valley Forge, or vice versa? Or that Hasdrubal at Carthage would agree that his position was less hazardous than that of Hitler at Berlin, or vice versa?

After a catastrophe has passed into history, it never can be considered by posterity as tragic as it was to those who experienced it.

The death of a stranger means little to us, but the loss of someone near and dear is real tragedy.

So it is with problems. We are most concerned about those confronting us.

Those who have been engaged in the telephone business for any length of time know that problems are always with us. As soon as one is solved, another is found sitting on the doorstep.

Naturally, it is not our intention to discuss all telephone problems but it does seem appropriate to touch upon one major item that now is with us, so that, by giving the matter thought, if we have not already done so, we can formulate the best course to follow.

Because telephone plant must be built to provide for growth over a long period, we continually have a substantial surplus in normal times. When war came, this surplus was sufficient for essential needs but since production suddenly was stopped, service could not, generally, be provided for non-essential purposes. This resulted in a large accumulation of unfilled orders, especially for residence service.

It has not been difficult for these applicants to understand the delay because they also were unable to get many other commodities that had been regarded as necessities.

Now that peace is here, production in all industries, including our own, will get into action, but the nature of our plant and equipment is such as to require a longer period to produce than is needed by most other businesses.

Within a relatively short time, automobiles, washing machines, irons, radios, etc., will begin rolling off the assembly lines in quantities, but it probably will still require two years to build and install central office equipment.

While our position is perfectly sound, our problem is how to make the public understand. It doesn't mean a thing to be right if the other fellow *thinks* you are wrong. Of course, there is no magic formula. The job must be done the hard way, but it can be done well if we give the matter sufficient thought.

Here are some items that might be given consideration in light of the need for special procedure:

(1) Letters to waiting applicants pointing out the difference in the nature of our production requirements as compared to other commodities. Periodic follow-up letters informing them of progress.

(2) Continual advertising (including radio where practicable), stating our position, together with information as to progress.

(3) Routine for keeping all employes informed about our position and progress.

(4) Plan for constantly reviewing the situation with employes having direct contacts with the public and actually training them in how to explain our position.

(5) Making sure that written replies to inquiries are well prepared.

V V

Sedalia, Ky., Independent Has Jap Telephone

A Japanese magneto handset recently was installed on a line connected with the Sedalia (Ky.) Telephone Co. and is reported to be maintaining harmonious relations with its American neighbors.

The handset was captured by one of the subscribers of the Sedalia company who sent it to Ben Brent, company owner. Mr. Brent used it, with slight modifications, to alleviate the instrument shortage.

V V

GI's in Aleutians Make Direct Calls Home

Servicemen in the Aleutian Islands now may telephone home direct from their base by radio-telephone.

The circuit was established July 15 and the first call was placed by Pfc. Jack K. Boldrin who talked to Seattle, Wash.

The service will be maintained by the Alaska communications system, it was stated, and will be open to civilians at full commercial rates.

V V

Ex-Telephone Employe Receives Bronze Star

The only man in the Wakde-Toem area of Dutch New Guinea who knew how to repair and rebuild large switchboards of the Army's base telephone system was T/4 William F. Handley, Marshall, Mo., former employe of the Southwestern Bell Telephone Co. So well did he do the job that he has been cited by his commanding officer and awarded the Bronze Star, according to word recently received.

The citation said he not only kept two old, almost worn out switchboards operating at a time when uninterrupted communication was essential, but also built parts for them from salvaged metal. He had to work an average of 15 hours a day to keep them in running order, the citation said.

V V

Texas Association Plans Broader Activities

Oscar Burton, Tyler, Tex., president of the Texas Telephone Association, announced that the association is contemplating broader activities in connection with extending its services to small Independent companies throughout the state.

Mr. Burton stated that as soon as the association selects an executive secretary, which position now is vacant, personal calls by the secretary on the small companies will be a part of the broader plan.

V V

Canada-West Indies Service

A. H. Ginman, president of the Canadian Marconi Co., recently disclosed that on September 1 the company was to open a radio-telephone service between Montreal, Quebec, and Barbados, West Indies, with its overseas associates, Cable & Wireless, Ltd., of which Mr. Ginman is the Canadian director, operating the Barbados end, and distributing the service through the Barbados Telephone Co., with the Bell Telephone Co. of Canada handling the land calls there.

V V

Independent Agent Resigns

MRS. ESTELLA CHRISTY, who had been employed by the Chalmers, Ind., exchange of the United Telephone Co., Inc., as agent the past 16 years, recently resigned.

AN OLD BUSINESS OFFICE MADE NEW

With the relaxation of wartime conservation orders on building materials, many telephone companies are making plans to construct new or rehabilitate old telephone exchange buildings. Many plans call for installation of up-to-date and modern office equipment and arrangements in business offices.

While the business office of the Pekin, Ill., exchange of the Middle States Telephone Co. of Illinois, illustrated above, was rehabilitated a few years ago, it serves as a good example of what improvements can be accomplished in remodeling of outmoded offices.

V. B. Clark, district manager of the Middle States company, stated that the building which houses the Pekin exchange probably is 65 to 70 years of age and up to the time it was remodeled in 1939 it was only an ordinary business house.

In a general remodeling program, Mr. Clark stated that the rehabilitation of the business office was one of the first considerations. However, reinforcing the building was the first step. The building was dangerous from a structural standpoint and it was necessary to provide shores so the basement could be faced with four-inch concrete blocks to provide a base for studding which had deteriorated on one end by dry rock. A maze of supports and counter supports which had accumulated in the basement were eliminated, and new bearing walls and proper supports for the center of the building were provided.

The first floor, used as a business office and for general offices, was completely redecorated. Green inlaid linoleum was used on the floors and the ceilings were treated with semi-acoustical blocks to harmonize with the linoleum. The counter, which was constructed locally, is of appalachian oak to match the gray finish of the woodwork. The counter was constructed so that a steel safe and filing drawers could be installed underneath.

Two telephone booths and a washroom were placed in the dead space under the stairway leading to the second floor. Semi-acoustical blocks were used on the upper part of the walls in the telephone booths which were equipped with telephone shelves, fans, lights with door switches and chrome stools with yellow leather cushions.

The window in the business office was of the old rounded grocery display window type and, in order to modernize its appearance, the display platform along the window was rimmed out and a semi-hexagonal seat with a chrome railing back was installed. Aluminum venetian blinds were installed over the window, giving it an attractive and modern appearance.

The basement also was decorated in light colors with modern lighting fixtures installed. Sufficient drawers and cupboards and other storage compartments were installed so that all equipment and supplies could be kept in an orderly manner. Mr. Clark stated that the storeroom arrangement resulted in many items of supplies and equipment being saved as they were not hidden in dark bins and corners as is the case in many old type telephone storerooms.

The cost of remodeling the basement and first floor of the Pekin exchange building approximated $10,000, including the counter and other fixtures. Mr. Clark estimated that the company spent approximately 20 per cent more than the cost of a drab, unimaginative office. However, he stated that the telephone office now fits into the modern trend of business houses in Pekin, which places the telephone company in the group of progressive business concerns in that city.

Gary Group Now Operates Middle States Utilities

As a result of confirmation of the plan of reorganization of Middle States Utilities, Inc. (formerly Middle States Utilities Co.), holding company for important telephone operating properties in Missouri and Iowa, management and control of that company and its subsidiaries now are in the hands of the Theodore Gary & Co. organization, more commonly known in telephone circles as the "Gary group." Announcement to this effect recently was made by Hunter L. Gary, chairman of Gary Services & Investment Co., service agency for the Gary group of telephone operating and manufacturing companies.

The plan of reorganization, approved by the bondholders and preferred and common stockholders of the parent company, was submitted to the U. S. District Court, western district of Missouri, early this year and was confirmed by that court on May 28. The plan, as confirmed, included the change of name to Middle States Utilities, Inc., and appointment of the following as the new board of directors: V. E. Chaney, R. R. Coffman, Clyde H. Evans, Hunter L. Gary and Martin Lindsay.

The telephone operating companies controlled by Middle States Utilities, Inc., comprise the following: Middle States Utilities Co. of Missouri, operating 21 exchanges in Missouri, serving approximately 7,200 subscribers; Middle States Utilities Co. of Iowa, operating 22 exchanges in southern Iowa, serving approximately 5,000 subscribers; Clinton County Mutual Telephone Co., serving approximately 1,200 subscribers in eight exchanges in Missouri, and Andrew County Mutual Telephone Co., serving approximately 2,200 subscribers in nine exchanges in Missouri.

With more than 35 years of experience in the operation of telephone properties, the Gary group, it is stated, is fitted to undertake the management of this group of exchanges and to solve the problems resulting from wartime conditions.

V V

Manages Independent Exchange

J. G. WEBER recently became manager of the Rusk County Rural Telephone Co., Ladysmith, Wis.

Now **... Leakage Resistance Measurements at Low Potentials!**

Because of its compactness and extreme high sensitivity, this direct reading instrument fills an important measurement gap in the production and servicing of a wide variety of components and electrical devices. Minute faults can be detected *in advance* . . . tests can be made without destructive breakdown. Test potential less than 50 Volts.

Here's what a few typical users say about Model 799:

"We use it for testing the leakage between windings in transformers, or from windings to core or case."

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For complete data on Model 799 Insulation Tester, communicate with the WESTON representative in your locality, or write...Weston Electrical Instrument Corporation, 617 Frelinghuysen Ave., Newark 5, N.J.

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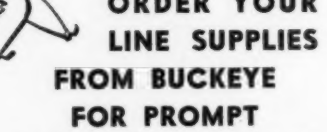

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Thimbleye Bolts (Straight and Angle)

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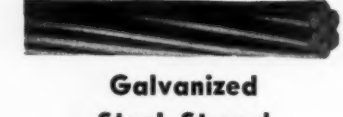

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Pacific Coast Committee Promotes Financial Backing

The Pacific Coast Independent Telephone Committee on Rural Service, a committee representing the Washington Independent Telephone Association, Oregon Independent Telephone Association and California Independent Telephone Association, on August 22 issued a letter to the telephone industry and to the banks in the Pacific area, together with a bulletin, entitled "Notes on Factors Affecting the Economics of Independent Telephone Operations on the Pacific Coast." Issued with this bulletin and letter was a copy of Circular No. 25 issued by the Reconstruction Finance Corp.

The purpose of this transmittal is to expedite the obtaining of financial backing by those telephone companies requiring modernization and expansion and also is meant to be in the interest of rural areas and a benefit to companies contemplating urban improvements.

The letter, addressed to Independent telephone companies in Washington, Oregon, Idaho, Nevada and California, states that in order to stimulate the growth of small businesses and to instill vigor in concerns whose operating facilities require rehabilitation, the Reconstruction Finance Corp. has developed a plan for making long term money loans at moderate interest.

The Rural Service committee is acquainting each of the major banks in the Pacific area with the possible interest of the telephone industry in this financing. Since this plan is new and banking interests have had little or no experience under the program, the committee advised that the negotiation of these loans may require direct contact with the nearest office of the RFC.

"Notes on Factors Affecting the Economics of Independent Telephone Operations on the Pacific Coast" was intended for use in acquainting any outside parties with the general characteristics and prospects of the Independent industry.

The Pacific Coast committee stated the purpose of the bulletin, which discusses eight various topics, as one "to brief those considerations which may be significant in establishing with financial houses a proper understanding of the economic prospects and financial problems of the telephone business. This summary is confined to those general attributes of the industry which will be found to apply in almost every case where the potential borrower is a proprietor, partnership or corporation engaged in rendering telephone service to the public."

Circular No. 25 of the RFC, dated March, 1945, contains information regarding blanket participation in loans made by banks to small business enterprises and explains the details of this lending policy. Locations of loan agencies and special representatives of the RFC are included in the circular.

Principles of Enduring Business

By JOHN S. ALLEN

VII. Employes Detect the Detective

SOME managers seem to feel that the dignity of their offices is enhanced by discussing matters behind closed doors, when they really would do much better to discuss them openly, through open doors. The confidence and goodwill of business associates and employes cannot be secured by whispering secrets that are not secrets, semi-privately. Mysterious managers beget suspicious employes and soon all the employes are spying on one another.

I know of one instance where an employer of a large number of people hired, without justification, a detective from a neighboring town to spy among his employes in order to tell him what they talked about when he wasn't around. In making his arrangements, his nefarious plan became known, and the day the detective arrived, a few employes surreptitiously looked him over at the depot. They kept each other informed about what he was doing, and had a lot of fun at their employer's expense, detecting the detective.

Cable Maintenance

(Concluded from page 10)

place a lead sleeve immediately after clearing the fault. A better method than the soldering iron has been developed—by using a tank of gas and torch as shown in *Fig. 11.*

Underground cable failures caused by excavations or pipe pushing by "foreign" workmen always should receive immediate attention. Being on the job early often affords the opportunity to prevent excessive moisture from entering the cable where the water conditions exist, as well as further damage being done by "foreign" workmen, due to their ignorance concerning the cable.

Pipe pushing under streets and highways often results in serious damage to telephone cables. A practical way to prevent this serious hazard is to cooperate with all other utilities operating in the locality by notifying each other of such operations and requesting that someone who is competent be sent out to the job to advise where and when not to excavate or push pipe. The expense involved will be small when compared to the cost of a repair job.

Fig. 12 shows a pipe pusher in position. A cable is damaged at "A" and some time will be required for making an excavation to reach the damaged cable. To prevent further damage to the cable by the entrance of moisture, a nitrogen tank is connected to the cable in manholes in both directions aside from the fault. Nitrogen is admitted continuously until the damaged cable has been reached and the threat of further damage by moisture is eliminated by necessary means. Nitrogen gas is inexpensive and should not be spared if there is any possibility of water or moisture being present at or near the damaged sheath.

Unless excessive moisture has penetrated too far inside the sheath and if the number of pairs that must be spliced out is limited, splitting of the sheath to effect repairs is recommended. When a sleeve must be used, the outside diameter, if possible, should be smaller than the inside diameter of the duct carrying the cable so as to facilitate subsequent necessary removal of the cable from the duct without excavating. In order to accomplish this, it sometimes is necessary to increase the sleeve length and stagger the splicing, thus reducing the diameter of the sleeve to a minimum.

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For Better Ringing Service

Users, everywhere, like Sub-Cycle's trouble free dependable service and operating economy. Sub-Cycle is designed to give the unfailing ringing current so necessary to the smooth operation of the modern exchange. Has no moving parts—Nothing to Adjust—Is Quiet in operation.

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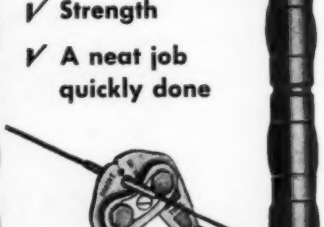

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Design Program to Aid Industrial Safety

A specific program, designed to help industry meet the threat of an increased accident toll under the changed conditions of the postwar period, has just been offered by 38 national organizations interested in industrial safety.

The program is contained in a 16-page pamphlet, *Industrial Safety Tomorrow*, produced by the National Safety Council, 20 N. Wacker Dr., Chicago 6, Ill., for the cooperating organizations. The sponsoring organizations include industrial management associations, labor unions, civic organizations, educational institutions and insurance associations.

Highlights of the pamphlet, which can be obtained without cost from the council, include a detailed list of 32 main elements of an effective industrial safety program, grouped around the following topics: Safety organization, inspections, accident records, first aid and medical facilities, buildings and grounds, machinery and guards and equipment, personnel selection and training, maintaining interest, re-employment of service men and women, off-the-job safety.

The pamphlet stresses the need and opportunity for cooperative effort to prevent accidents. It points out that the individual company or plant can secure safety assistance from the following types of organizations:

(1) Government agencies concerned with industrial safety and hygiene, fire and health.

(2) Insurance companies, agencies and associations.

(3) Machine manufacturers, suppliers of safety and other industrial equipment.

(4) Civic, professional and commercial associations dealing with safety, health and fire, with business in general, or with a particular industry.

(5) Labor organizations.

(6) Educational institutions, both technical and general.

After listing the specific services which such cooperating agencies can perform, the pamphlet concludes: "The effective conduct of all these activities requires adequate, competent, well-trained personnel, and definite, adequate budgets. . . . Complete coordination and cooperation of all agencies urgently is needed if industrial accidents are to be reduced to a minimum."

V V

Says Government Won't Assume Privately Operated Systems

The proposed government operation of overseas communications within the British Empire, which was the subject of the recent Imperial Telecommunications Conference in London between Dominion and Indian government representatives, will not mean the taking over by any government of systems now operated by private enterprise, A. H. Ginman, president of the Canadian Marconi Co., told a TELEPHONY staff correspondent on his return from the conference, which he attended as an observer. (TELEPHONY, August 25, page 28.)

The recommendations made by Lord Reith, conference chairman, for the proposed government operation of overseas communications within the Empire were considered by the conference, the representatives of which will make reports to their respective governments, Mr. Ginman said. Sub-committees were set up with the object of exchanging views prior to the next International Telegraph Conference, which is expected to be held next year.

TEST DOUBTFUL POLES

The weakest point in a pole may be just below the ground level; it should be tested before climbing. Here are some suggestions:

(1) Test each pole, unless it is so new that there may be no doubt of its soundness.

(2) Surface defects both below and above ground may often be noted with the naked eye; but use a screwdriver or a bar vigorously to discover inner decay.

(3) Do not depend on testing a pole by "sounding" it with a block of wood or a heavy tool.

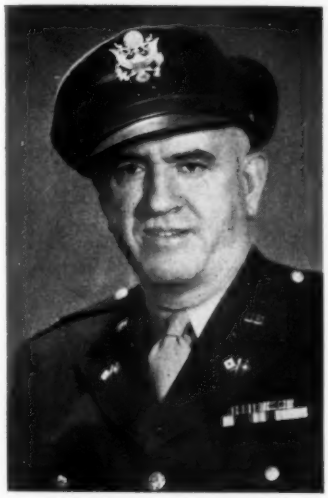
(4) If the ground is frozen, or if the pole is set in concrete, assume that the pole is unsafe unless you have good reason to be confident that it is safe.

(5) If the pole is in a weakened condition, support it with pike poles before climbing; see that these poles are well secured so that they cannot fall.

—THE BIG PARADE

Colonel Stanley Returns To Indiana Bell

When Col. Foster L. Stanley left Philadelphia, Pa., on August 12, 1945, to return to the Indiana Bell Telephone Co. after 4½ years' service with the



COL. FOSTER L. STANLEY

Signal Corps, Col. Will V. Parker, commanding officer, Plant Engineering Agency, made the following remarks in his farewell address:

"On your departure from the Plant Engineering Agency, Army Communications Service, and your return to your civilian endeavors, I commend you for the highly successful completion of your delegated duties with this agency and with the Signal Corps, commencing on July 31, 1941, and continuing to date through World War II. You have fulfilled difficult and important assignments, consistently have earned for yourself the highest of ratings and have added immeasurably to the accomplishments, morale and reputation of the Plant Engineering Agency.

"You served as officer in charge of the wire section in Washington, as chief of the Signal Airways Branch in Philadelphia and as commanding officer of the southwest sector, Army Communications Service, Plant Engineering Agency, in the Pacific area. You executed these charges with equal facility and proved yourself equally adept at handling technical, policy, planning and administrative matters. In the southwest sector, you directed the growth of and commanded an organization which now numbers 1,700 officers and enlisted men who effectively are discharging the agency's mission of installing and maintaining fixed communications, aids to aerial navigation and meteorological equipment. This mission and its included strike operations constitute a most important adjunct of the military operations in that area.

"You earned the respect and confidence of your subordinates, of your associates in the Plant Engineering Agency and of the services and organizations with which the agency comes into contact. You unselfishly gave of yourself, your energies and your talents to further the best interests of the service and of the nation.

"This commendation inadequately expresses my appreciation for your attainments and my regard for you. On behalf of the entire Plant Engineering Agency, Army Communications Service, I express regret that our official association is being terminated and extend you our best wishes for your continued and assured success in your reassumed civilian responsibilities."

V V

Named to Airport Committee

AUBREY H. MELLINGER, president of the Illinois Bell Telephone Co. and chairman of the Chicago Plan Commission, and ALDERMAN P. J. CULLERTON have been added to the selection committee named to pick a site for a new airport at Chicago, Ill., MAYOR EDWARD J. KELLY disclosed August 27. The committee originally numbered 18 men.

V V

Celebrate Jap Surrender

About 550 employes and families of the Lincoln (Neb.) Telephone & Telegraph Co. celebrated the Jap surrender with a picnic August 19. Groups from most of the areas served by the company, in 22 southeastern counties, were present.

The Guy Who Steers the Back Wheels...

Fire! The siren screams and the big hook and ladder outfit comes howling down the street. And there at the very end of the long vehicle he sits . . . the guy who steers the back wheels. It looks important but he has no real control over the destination of the vehicle. He's only playing follow the leader.

One of the fundamentals of sound business management is to select capable department heads and branch managers, men with the "KNOW-HOW" to get the job done right. Then they can use their own initiative and you'll get results.

The manager in a LOOMIS-operated city is in charge. He can give advertisers, the quick decisions and the on-the-spot service they need. He is a successful man with long experience in the advertising field who knows how to handle it and make it pay.

Twenty years' experience and the sale and management of more than 25 million dollars worth of advertising have given LOOMIS the "KNOW-HOW" to make advertising produce greater revenue from Directory Advertising.

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Tests Everything Electrical
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Equipped with Neon light which tells instantly where trouble lies in circuits, fuses, cut-outs, motors, etc. Indicates hot or grounded wires. Tells AC from DC. SAVES PRECIOUS TIME. Has PATENTED safety features. Vest pocket size
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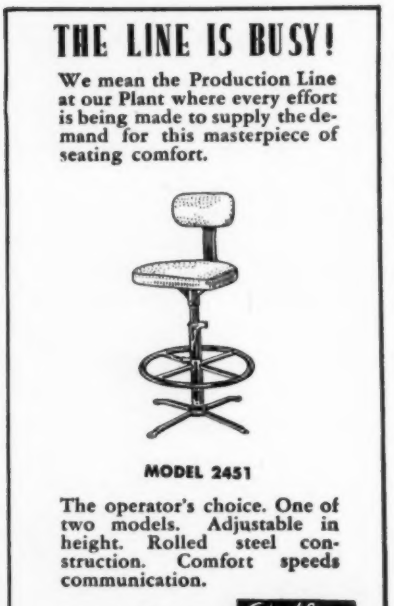
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Stromberg-Carlson Reveals Radar Activities

The Stromberg-Carlson Co. of Rochester, N. Y., one of 10 American companies producing radar equipment, produced more than 20 million dollars worth of such equipment during the war period, F. C. Young, vice president in charge of radio and research, announced recently.

This comprised more than one-sixth of the total 30 million dollars worth of equipment produced by Stromberg-Carlson for the armed forces. In addition, over 1,500 Stromberg-Carlson employes put in a major part of their war work on radar equipment.

When the company's research department was reorganized in the spring of 1941, it was recognized that the study of microwave technique should be an important part of its activities. The first contact with radar work was made during July, 1941, when Mr. Young, W. F. Cotter and G. R. Town visited the Massachusetts Institute of Technology Radiation Laboratory and discussed with Dr. L. A. DuBridge as to how Stromberg-Carlson effectively could cooperate in the radar program. Shortly following this, some of the research personnel went to the MIT Laboratory to receive special training in radar techniques.

The first radar job undertaken by the company was the design and construction of an experimental lot of airborne radar receivers for use by the British in a system to be incorporated in B-24 bombers. Partly paralleling this job and continuing beyond it was the design and construction of a somewhat similar receiver for use in radar systems for harbor protection, primarily in continental United States. It is understood that these receivers played an important role in the radar protection of our coast line.

It had been recognized for some time that in order to carry on radar research and development work, it would be necessary to have available a complete system upon which to perform experiments. Accordingly, a tower laboratory was constructed.

The floor of this laboratory was located about 60 feet above the ground and the building housed the main components of a radar set and afforded some laboratory space. The rotating antenna of the system was installed in the dome of the laboratory. This system was of the so-called PPI (plan-position indicator) which delineates on the screen of an oscilloscope a map of the surrounding terrain. While this outfit was of comparatively low power, it served to provide valuable experience and it was possible to track a transport plane for about 30 miles.

Stromberg-Carlson's most important production contribution to the radar program, it was said, was the design and production of the Mark I and Mark II modulators, Mark II later being adopted as the standard design of airborne modulator for use by the Navy. The role of the modulator in a radar system is somewhat similar to that of the radio transmitter of a broadcast system, as this device supplies and controls the radio power sent into the antenna. The design of this equipment presented many new problems.

This work was begun early in 1942 when a preliminary model of the modulator originating at the MIT Radiation Laboratory was taken over by Stromberg-Carlson's Radio Engineering Department for redesign for production. Production was well under way in the fall of 1942. It became apparent, however, in March, 1942, that further redesign of the modulator was necessary in order to incorporate greater factors of safety in its operation. This program was undertaken by the research department and involved complete mechanical and electrical redesign. Large numbers of these modulators were produced and used in navy bombers.

Another radar development undertaken by the research department dur-

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ing the latter part of 1942, while it never arrived at the production stage because of a change in the character of our military operations from defensive to offensive, nevertheless, comprised many novel features which may be made use of in other military equipment. This device was a searchlight control radar, whose function was to locate enemy aircraft by radar at night and, at the same time, to control the pointing of a searchlight with such accuracy that the plane would be within the field of the searchlight when the latter was turned on. This was intended to enable the anti-aircraft batteries to take effective action before the plane could adopt evasive tactics.

This radar set was intended to be readily transportable and could be erected in about 40 minutes. Its distinguishing feature to the casual observer was a large bowl-like structure surmounting a tripod. This bowl, or dish, as it customarily was referred to, constituted the guiding element of the radar antenna and could be pointed in any direction to follow a plane, according to the indications displayed on the radar screen which was housed in the apparatus located between the legs of the tripod and enclosed in a tent. Field tests of this set were conducted both in Rochester, N. Y., and at Camp Evans, N. J.

In addition to the above work, other radar projects of a purely investigative nature were undertaken in the research department and the results were covered in secret reports.

V V

Chatham, N. Y., Company Plans Dial System

An expenditure of $80,000 as soon as material is available will be the Chatham (N.Y.) Telephone Co.'s contribution to the postwar era, it was announced August 16 by Clifford M. Sayer, manager.

The company, Mr. Sayer stated, plans to recondition the building it now owns and install dial equipment.

Since 1926 the present area has been served by the common battery system which, with increased demands, has been found inadequate and outmoded.

The installation of the dial system will add an increase of about 25 cents per month to each residential telephone, Mr. Sayer said.

V V

Army Wife Buys Exchange

When Dean Gay, stationed with the U. S. Army in Italy, returns to civilian life, he will step right into the management of the Hardin (Ky.) Telephone Co. which recently was purchased by his wife.

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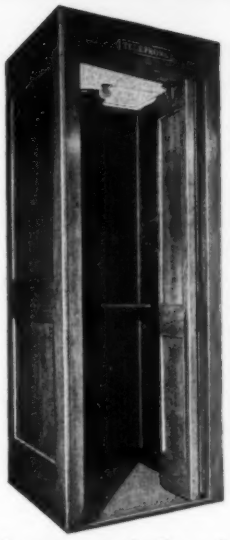

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Hazlett Goes to Brazil For Automatic Electric

Announcement has been made by H. F. Lello, vice president and general sales manager of International Automatic Electric Corp., of the appointment of James H. Hazlett, Automatic's representative in southern California for the past several years, as manager of Automatic Telephones Ltd. of Brazil.

JAMES H. HAZLETT

Mr. Hazlett will leave shortly for Sao Paulo where he will take up his new duties, replacing J. B. Haley who is returning to the United States after spending more than three years in Brazil.

Mr. Hazlett brings to his new duties a broad range of telephone experience which includes operation and maintenance for telephone companies, as well as installation, engineering and manufacturing experience with Automatic Electric.

Entering the employ of Automatic Electric Co. in 1907, Mr. Hazlett took the company's training course, and then went to Portland, Ore., to undertake maintenance work on Strowger Automatic equipment for the Home Telephone Co. of Portland. Four years later, he went to Billings, Mont., where he took charge of one of the automatic dial offices, remaining there until 1917, when he returned to Chicago to enter the engineering inspection department of the Automatic Electric factory.

In 1919, Mr. Hazlett was placed in charge of engineering inspection, and over a period of eight years developed that department to conform to the fast growing equipment requirements in the field.

He then entered the installation department, and in 1932 returned to the West, where he engaged in service

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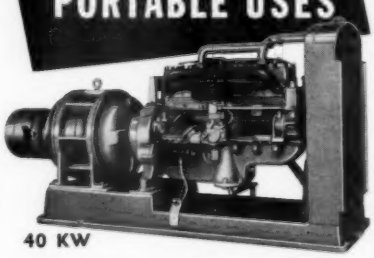

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work, later entering the sales organization. For the past 10 years, he has had charge of the Los Angeles sales office.

V V

Automatic Appoints Markey California Representative

Simultaneously with the appointment of J. H. Hazlett as manager of Automatic Telephones Ltd. of Brazil, Automatic Electric Sales Corp. has announced that M. L. Markey, formerly engineer in the company's Columbus, Ohio, office, has become service repre-

M. L. MARKEY

sentative for southern California, replacing Mr. Hazlett, effective September 1. Mr. Markey will make his headquarters in Los Angeles.

Mr. Markey is a graduate of Cornell University, where he received his electrical engineering degree in 1928. He then spent two years in the employ of the New York (N. Y.) Telephone Co., joining Automatic Electric Co. in 1930. After taking the company's training course, he was assigned to the installation department where he spent some months as student installer. Returning to Chicago in 1932, he divided his time between the sales and engineering organizations, while working on special customer service assignments.

In 1936, Mr. Markey was assigned to the Cleveland, Ohio, sales office as engineer, and, shortly after the outbreak of the war, went to Columbus where he since has worked closely with the Army Air Forces and other branches of the armed services as field engineer on government orders for communication and other wartime equipment.

Choose Kellogg Engineer For European Mission

Roy Augustine of the engineering division of Kellogg Switchboard & Supply Co., Chicago, has been assigned to the European occupation zone for

COL. ROY AUGUSTINE

attachment with a military mission for the Foreign Economics Administration. He has received the rank of colonel and has been granted a leave of absence from Kellogg for the period of his special assignment.

Mr. Augustine has been associated with the technical end of communications for more than 30 years. He attended both Michigan State College and Columbia University, graduating from the latter in 1908. He joined Kellogg in 1913 as a power engineer, organizing and managing his own radio manufacturing business.

At the outbreak of World War II, he responded to the call for technically trained telephone communication engineers and has served as apparatus engineer at Kellogg until assignment to his present new duties.

V V

Buckingham Conducts "Fabuck" Safety Belt Tests

Recent field tests of "Fabuck," originally planned as a leather substitute in safety belts and straps, have been made by its developer, the Buckingham Manufacturing Co. of Binghamton, N. Y.

Robert F. Stepbach, sales manager for the Buckingham company, stated that "Fabuck, upon which work was begun almost a year ago, tested 6,300 pounds to the square inch in the laboratory machines. Our principal concern was that linemen find it comfortable to wear (illustrated on page 36). The field tests proved it was."

At the beginning of the experimental work, Mr. Stepbach explained, a base

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of heavy silver duck was used and was impregnated with neoprene. The manufacturers continued to experiment and later a process of vulcanizing one ply upon another with the thread pattern running in different directions proved more practicable. Next, they developed a rounded edge with the ends of the basic material folded completely inside the fabric. After that, Mr. Stepbach pointed out, Fabuck was put to the severest abrasion tests the technicians could devise and the results were satisfactory.

Telephone Calls Sweep Nation As Jap Surrender Is Told

Announcement August 14 by President Truman of the Japanese surrender precipitated a wave of telephone calling throughout the nation that jammed switchboards and, according to an American Telephone & Telegraph Co. official, "broke all records wide open."

Long distance calling was double the normal volume and local calls throughout the nation likewise were heavy beyond previous experience, the company said.

The New York (N.Y.) Telephone Co. estimated that calls in the city's five boroughs for the 24 hours ended at midnight August 14, exceeded 10,000,000. Although this was not a record, the period between 7:00 p.m. and midnight was "the heaviest talking we ever had," a spokesman said.

Because the big news broke late in the day, after business establishments had closed, calls fell short of the high record of 12,119,490 made when Germany fell.

The New England Telephone & Telegraph Co., Boston, Mass., reported the greatest traffic load in its 70-year history with the Boston toll office, alone, handling 26,727 calls as compared with the previous record high of 23,888 of Christmas, 1944. Calls reached the peak at 8:00 p.m. and continued until midnight.

Operators, who had worked all day, remained at their posts. Night crews and special forces were called with the entire crew 80 to 100 per cent more than normally operating.

Telephone traffic showed a sharp increase over normal traffic at the Chesapeake & Potomac Telephone Co., Washington, D.C., according to H. F. Phillips, acting manager.

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International Creosoting and Construction Co., Galveston, Texas.—Creosoted Southern Yellow Pine Poles. Plants: Beaumont and Texarkana, Texas.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt-treated.

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